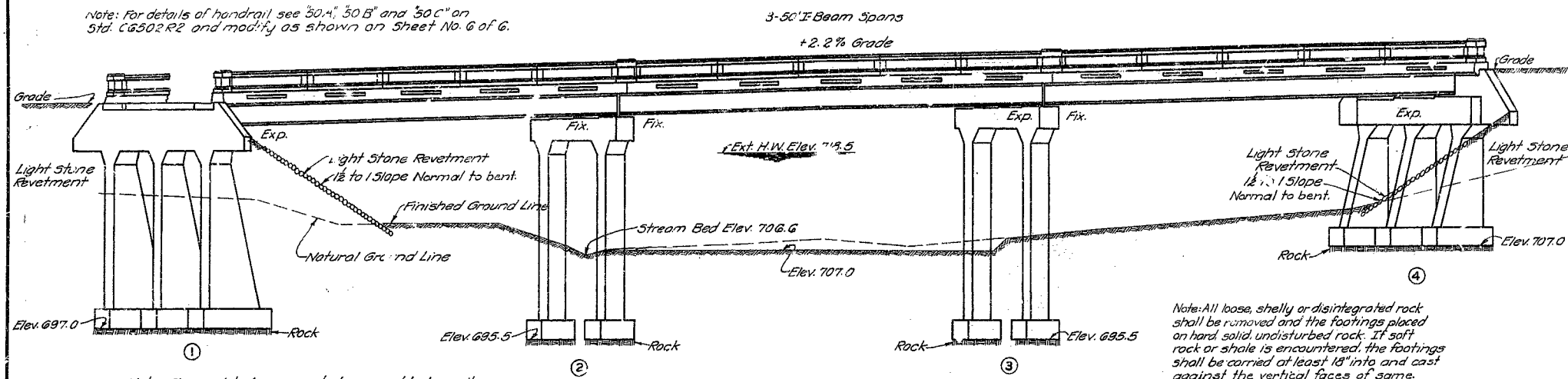


MISSOURI STATE HIGHWAY DEPARTMENT

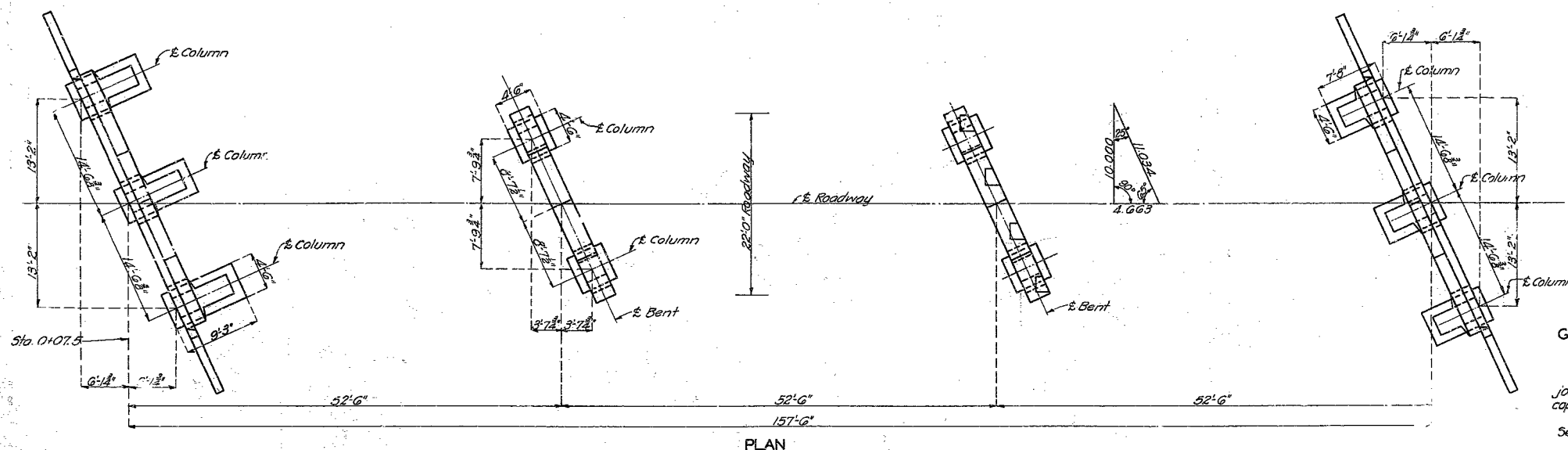
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	PA 442 E (R 5 B)	13		

Note: For details of handrail see 30.4, 30.5 and 30.6 on Std. C6502R2 and modify as shown on Sheet No. 6 of 6.

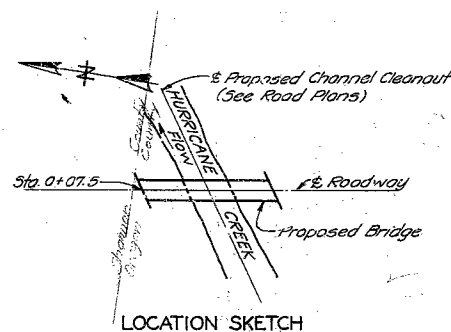


Note: Channel to be opened above and below site approximately as shown on General Elevation.

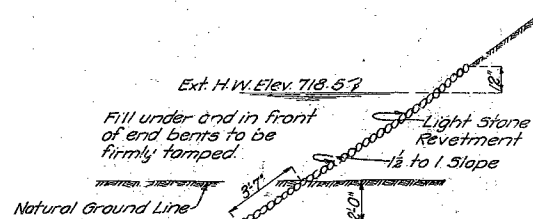
GENERAL ELEVATION



PLAN



LOCATION SKETCH



Note: Light stone revetment to be placed on fills at ends of bridge as shown in sketch. Approximately 400 sq. yds. of light stone revetment work included in road contr. St.

REVTMENT SKETCH

Note: This drawing is not to scale. Follow dimensions.

COMPLETE BILL OF REINFORCING STEEL					
No.	Size	Length	Mark	Location	Bending Sketches & Cutting Diagrams
12	5/8"	11'-5"	R501R	Rail	
12	5/8"	12'-3"	R501L	"	
120	5/8"	9'	R2	"	
108	5/8"	7'-6"	R3	Subpast	
32	5/8"	3'-9"	R4	Post	
1820	5/8"	18'	R5	Balusters	
28	5/8"	9'-3"	R506R	Rail	25'-5 1/2" CUT 150 BARS
28	5/8"	9'-3"	R506L	"	5'-12 CUT 10 BARS
3	5/8"	2'-3"	R7	Post	
32	5/8"	12'-0"	R508	Rail	
12	5/8"	23'-0"	C1	Curb	
120	5/8"	12'	C2	"	
24	5/8"	21'-6"	C3	"	
384	5/8"	24'-9"	S1	Sub	
198	5/8"	27'-0"	S2	"	
12	5/8"	27'-3"	S3	"	
180	5/8"	26'-6"	S4	"	
40	5/8"	7'-0"	S5	"	
3	5/8"	6'-3"	S7	"	
End Bents No. 1 & 4					
10	5/8"	18'-6"	H2	"	
2	5/8"	32'-6"	H3	Backwall	
30	5/8"	36'-3"	H4	Beam	
4	5/8"	34'-3"	H5	"	
14	5/8"	7'-0"	V1-V5	Wing	
30	5/8"	21'-6"	V6	Col. Bt. #1	
30	5/8"	14'-9"	V6	" #4	
64	5/8"	12'-9"	V3	Beams Bkwall	
4	5/8"	13'-6"	T1	Wing	
4	5/8"	34'-6"	T2	Backwall	
32	5/8"	9'-3"	T3	Wing	
16	5/8"	9'-3"	F1	Haunch	
30	5/8"	6'-3"	D1	Footings Bt. #4	
12	5/8"	11'-6"	H1	Wing	
2	5/8"	5'-9"	V2	"	
2	5/8"	6'-2"	V7	"	
27	5/8"	30'-0"	V6	Col. Bt. #1	
18	5/8"	27'-0"	V6	Col. Bt. #2	
30	5/8"	6'-9"	D2	Footings Bt. #1	
Intermediate Bents No. 2 & 3					
86	5/8"	10'-0"	P2	Column	
64	5/8"	10'-0"	P3	Beam	
6	5/8"	25'-0"	R4	Col. Bt. #3	
16	5/8"	6'-3"	D1	Footings	
32	1 1/8"	26'-9"	G1	Beam	
4	5/8"	24'-9"	G2	"	
16	5/8"	9'-3"	F1	Haunch	
16	5/8"	9'-0"	F3	"	
8	5/8"	24'-0"	P1	Col. Bt. #2	
Note: Dimensions given are along centerline of bars and are for computed lengths. Reinforcing bars 1/2" or over in diameter which are bent to an angle greater than 90° shall be of structural grade.					

GENERAL NOTES:-

All concrete to be Class "B"
Exposed edges to be beveled 1/2" where no other bevel is noted.
Where rubber compound is specified on plans for use in partition and expansion joints, the premoled joint shall be securely stitched to one face of concrete with copper wire.
Bar supports and spacers will be required for reinforcing steel in superstructure. See Standard C-110R.
Detail shop drawings for all structural steel and cast steel shall be submitted to the State Highway Department in duplicate and shall be approved before material is ordered or work started.
Rivets 1/2" Holes 1/2". Field connections riveted.
Paint: Shop: none. Field: surfaces inaccessible after erection three coats of red lead. No other paint to be applied by contractor. Red lead required shall be furnished by the contractor. Payment for cleaning and painting such surfaces will be included in unit price bid for structural steel.
All concrete shall be proportioned by the weight proportioning method. Excavation for structure shall be in accordance with Specification 1 of Standard Specifications issued November 12, 1935.
Beam lengths to be squared up at all points of bearing.

B.M. Elev. 713.54 Nail in Root 12" Hickory 45' Lt. Sta. 466 + 35.

BRIDGE OVER HURRICANE CREEK

STATE ROAD FROM SHANNON CO. LINE TO ALTON

ABOUT 9.0 MILES SOUTH OF WINONA

PROJECT NO. FA 442 E (R 5 B) STA. 0+07.5

OREGON COUNTY

FINISHED BY N.R. Luck 10/5/36
APPROVED BY C.W. Brown 10/5/36
CHIEF ENGINEER

DESIGN DATA:-

Design Specifications A.R.S.H.O.-1931.
Loading H-15 A.R.S.H.O. One Lane
Structural Steel Stress 16,000 #/sq. in.
Reinforcing Steel Stress 16,000 #/sq. in.
Concrete Class "B" 750 #/cu. ft.

ESTIMATED QUANTITIES			
Item	Superstr.	Substr.	Total
Excavation for Structures Cu. Yds.		140	140
Excavation for Structures Cu. Yds.		196	196
Class "B" Concrete (Handrail) Cu. Yds.	15.5		15.5
Class "B" Concrete Cu. Yds.	102.7	132.3	235.0
Fabricated Struct. Steel Lbs.	86,750		86,750
Reinforcing Steel Lbs.	28,720	11,730	40,450
Bearing Castings Lbs.	1,580		1,580

Note: Excavation below Elev. 707.0 will be paid for as Class 1 Excavation for Structures.
Excavation below Elev. 707.0 will be paid for as Class 2 Excavation for Structures.

Sheet No. 1 of 6

F.A.

STD. C110R
STD. C6502R2
K-358

Drawn Nov. 1933 by J.G.
Traced Nov. 1933 by G.W.
Checked Nov. 1933 by RAB.

459

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	FA5442E (R&R)	19		



DETAILS OF END BENT NO. 1

Note:- This drawing is not to scale.
Follow dimensions.

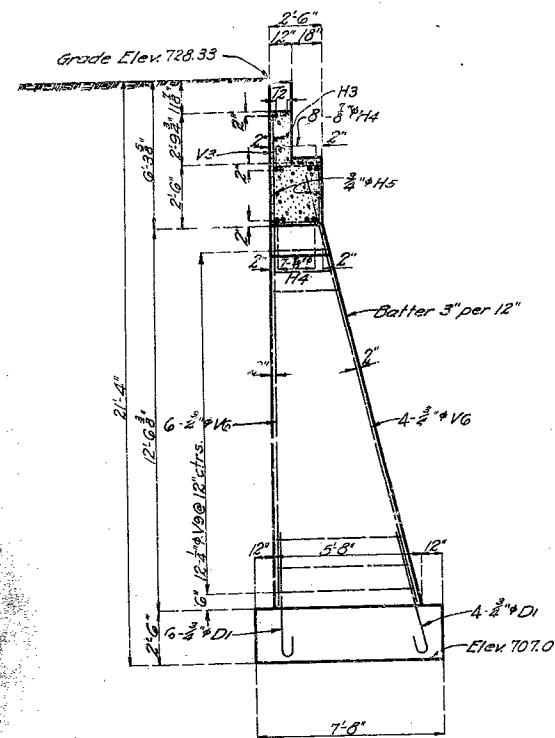
FINISHED

BRIDGE OVER HURRICANE CREEK
STATE ROAD FROM SHANNON CO. LINE TO ALTON
ABOUT 9.0 MILES SOUTH OF WINONA
PROJECT NO. FA5442E (RSB) STA. 0+07.5
OREGON COUNTY

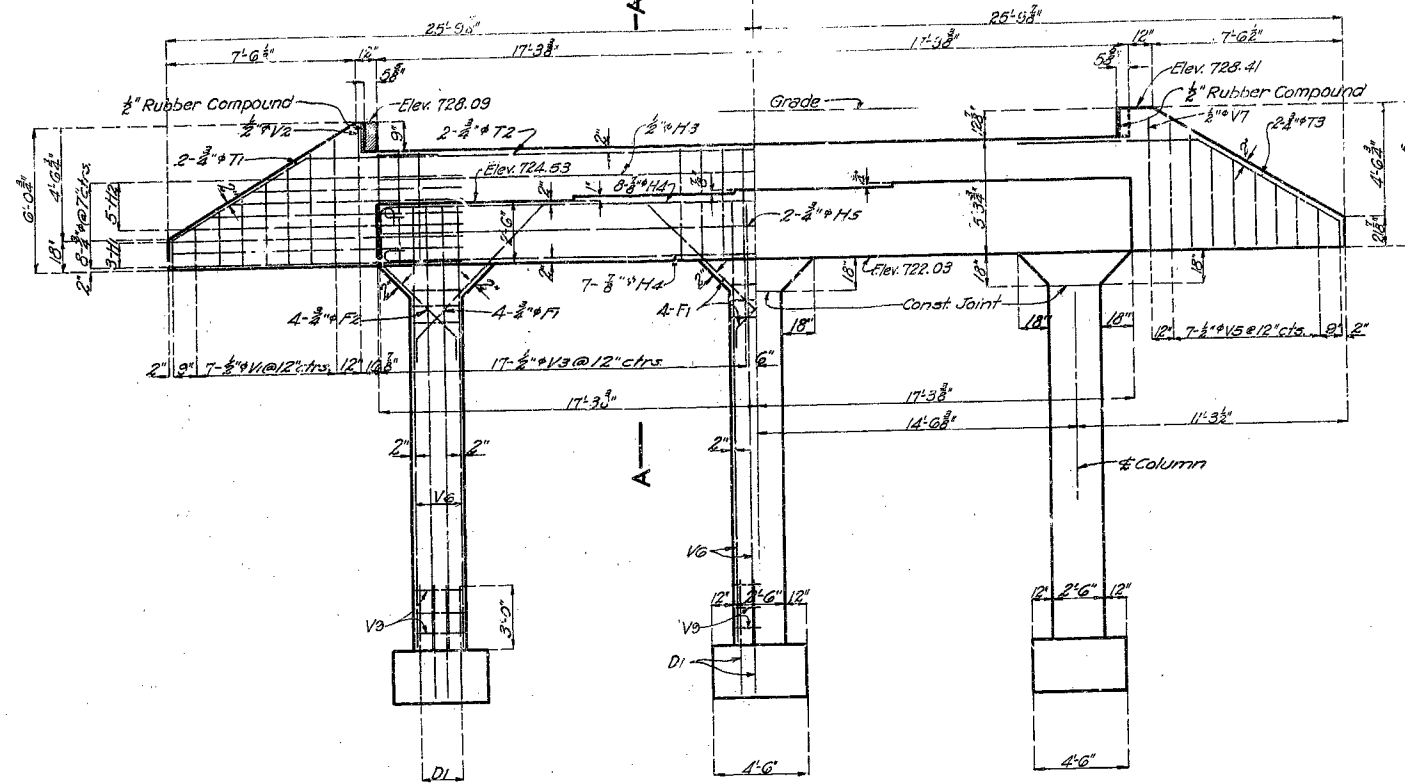
Assembled Nov. 1933 by J.G.-G.W.
Checked Nov. 1933 by RAB.
Drawn June 1932 by M.D.
Checked July 1932 by P.H.S.

MISSOURI STATE HIGHWAY DEPARTMENT

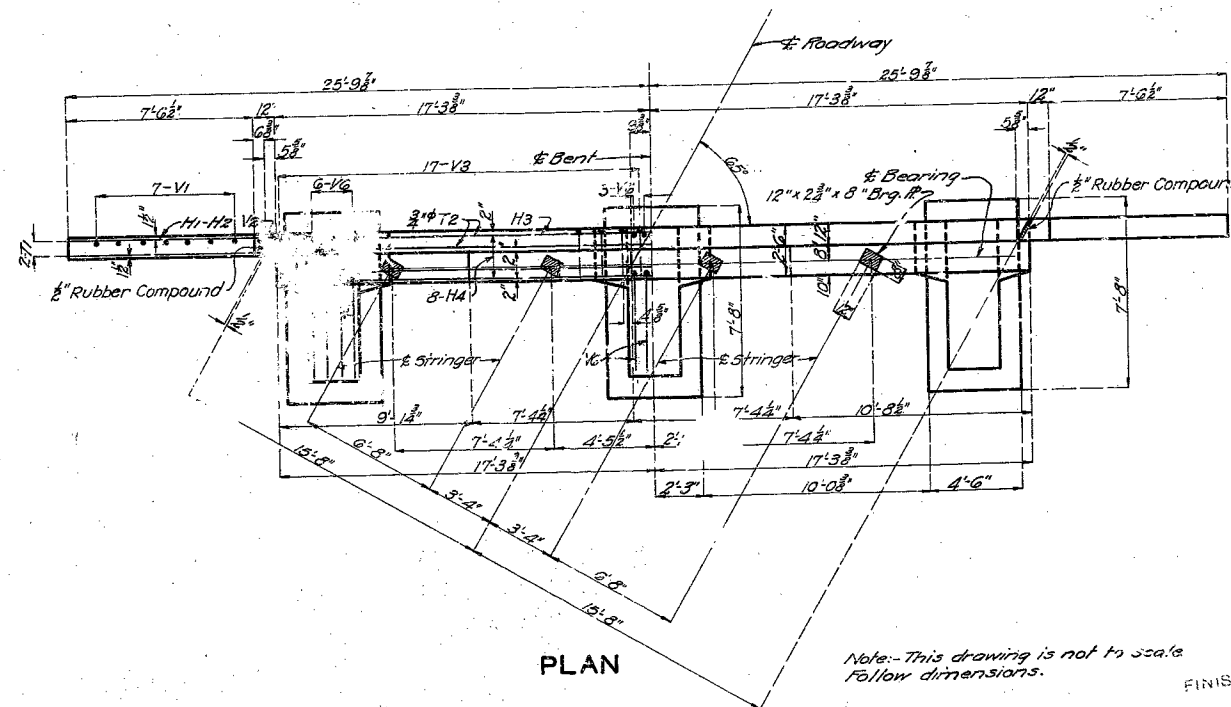
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	FAH442E (RSB)	19		



SECTION A-A



ELEVATION



PLAN

DETAILS OF END BENT NO. 4

BRIDGE OVER HURRICANE CREEK
STATE ROAD FROM SHANNON CO. LINE TO ALTON
ABOUT 9.0 MILES SOUTH OF WINONA
PROJECT NO. FAH442E (RSB) STA. 0+07.5
OREGON COUNTY

Note: This drawing is not to scale.
Follow dimensions.

FINISHED

FINISHED

Assembled Nov 1933 by J.G.-G.W.
Checked Nov 1933 by RAB
Drawn June 1932 by H.D.
Checked July 1932 by P.H.S.

Sheet No. 3 of 6

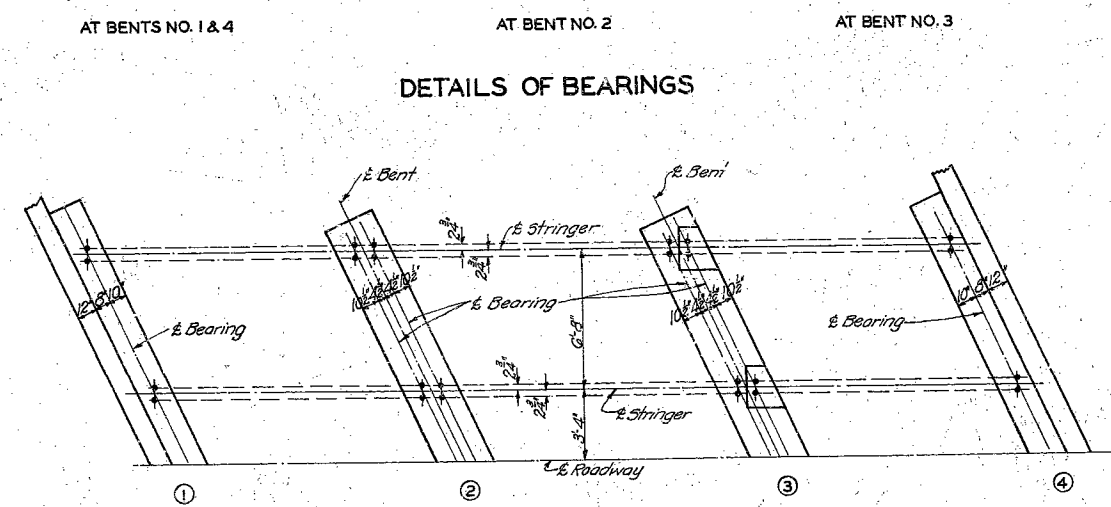
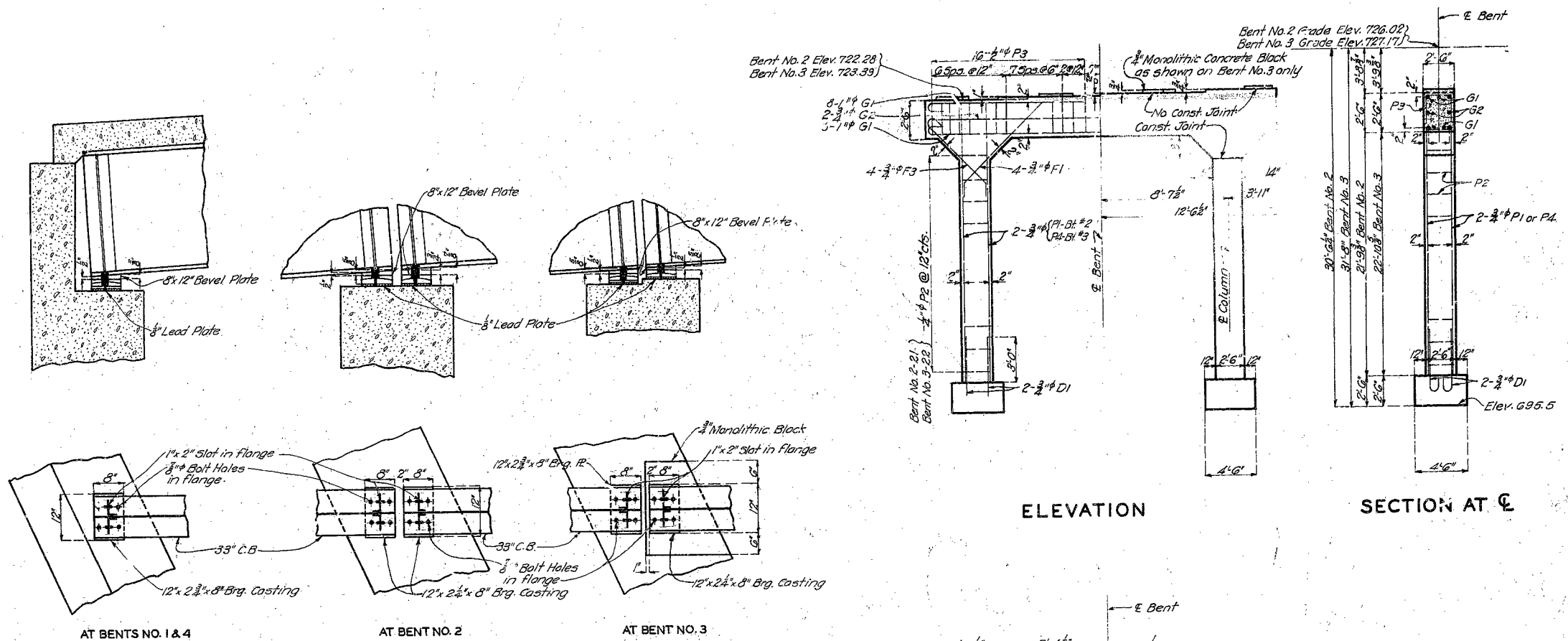
F.A.

K-358

461

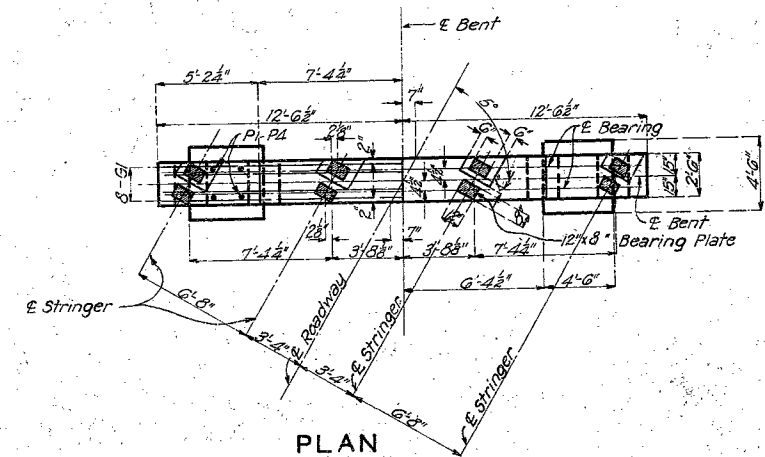
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	743442 (RSB)	19		



HALF ANCHOR BOLT PLAN

Note: Holes for anchor bolts shall be formed in substructure by placing and setting with templates, 4"x4" tapered holes.



DETAILS OF BENTS NO. 2 & 3

BRIDGE OVER HURRICANE CREEK

STATE ROAD FROM SHANNON CO. LINE TO ALTON
ABOUT 9.0 MILES SOUTH OF WINONA
PROJECT NO. 743442 (RSB) STA. 0+07.5

OREGON COUNTY

FINISHED

FINISHED

Sheet No. 4 of 6

F.A.

K-358

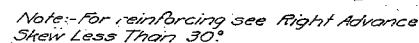
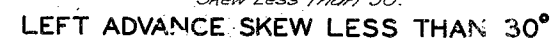
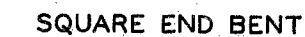
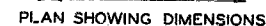
Assembled Nov. 1933 By J.G.-G.W.
Checked Nov. 1933 By RAB
Drawn July 1932 By R.J.G.
Checked July 1932 By PH3

Note: This drawing is not to scale.
Follow dimensions.

462

764

Assembled Nov 1933 by J.G.-G.W.
Checked Nov 1933 by RAB.
Yawn April 1932 by C.A.F.
Checked Nov. 1932 by RAB.

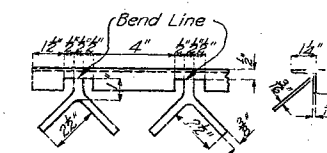


Length of panels between subposts on right handrail on "50 A" and left handrail on "50 C" to be 8'-4" instead of 8'-5" or 8'-6". Use 12 balusters in each panel. Add the letter R to bar mark for all longitudinal rail bars in these panels.

Length of panels between subposts on left handrail on "50 A" and right handrail on "50 C" to be 8'-11" instead of 8'-5" or 8'-6". Use 13 balusters in each panel. Add the letter L to bar mark for all longitudinal rail bars in these panels.

Outlets to be centered between subposts.

For details of handrail see "50 A", "50 B" and "50 C" on Std. CG502 R2. Handrail, curb and slab to be modified at end bents as shown on this sheet.



Note: Cost of metallic edge moulding will be included in unit bid price for concrete.

COUNTY

TYPICAL DETAILS OF CONCRETE RAIL AT END BENT

Note:- This drawing is not to scale.
Follow dimensions.

Sheet No. 6 of 6

F.A.

K-358

8-26-32

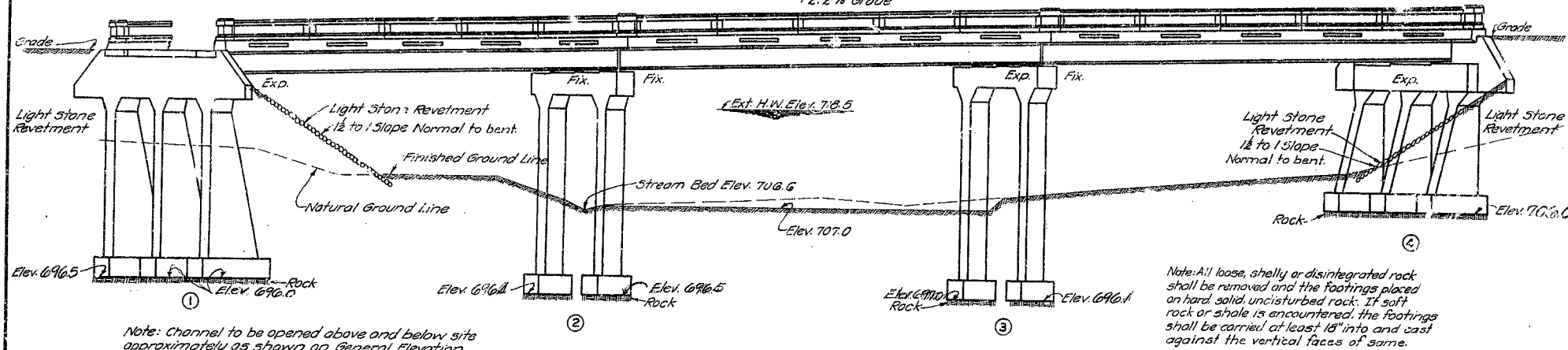
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MO.	1-104422 (2.50)	19		

FINAL PLANS

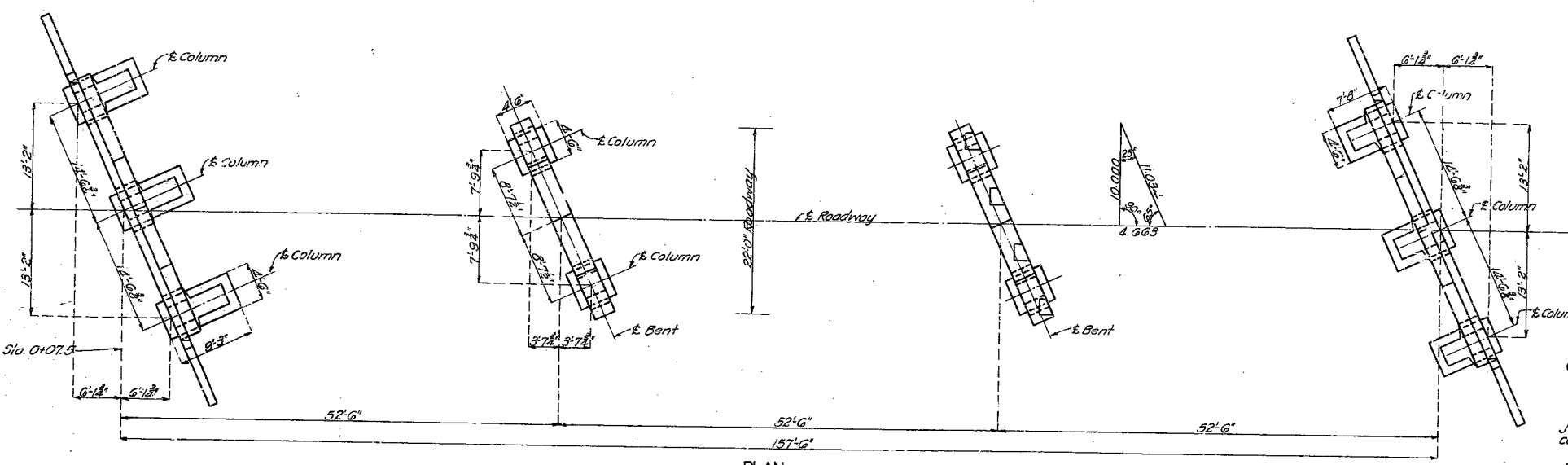
Note: For details of handrail see 30.4, 30.8 and 30.9 on Std. C6502R2 and modify as shown on Sheet No. 6 of 6.

3.50' I-Beam Spans
+2.2% Grade

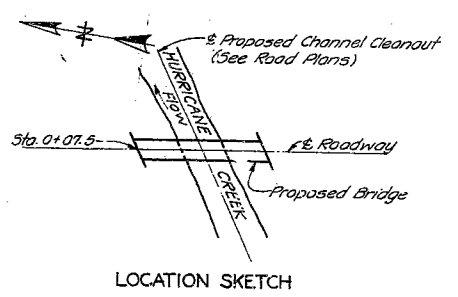


Note: Channel to be opened above and below site approximately as shown on General Elevation.

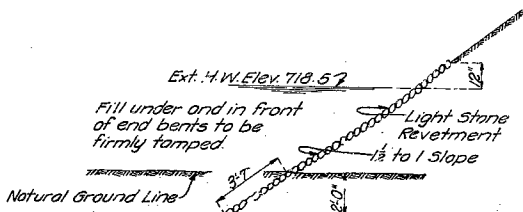
GENERAL ELEVATION



PLAN



LOCATION SKETCH



REVELMENT SKETCH

Note: Light stone revetment to be placed on fills at ends of bridge as shown in sketch.
Approximately 400 sq. yds. of light stone revetment work included in road contract.

Note: This drawing is not to scale. Follow dimensions.

Note: All loose, shelly or disintegrated rock shall be removed and the footings placed on hard solid, undisturbed rock. If soft rock or shale is encountered, the footings shall be carried at least 18" into and cast against the vertical faces of same.

COMPLETE BILL OF REINFORCING STEEL					Bending Sketches & Cutting Diagrams	
No.	Size	Length	Mark	Location		
Superstructure						
12	11'-9"	R501R	Rail			
12	12'-3"	R501L	Rail			
120	9"	R2				
100	7'-0"	R3	Subpost			
32	3'-9"	R4	Post			
1520	18"	R5	Brackets			
28	9'-3"	R506R	Nail			
28	9'-3"	R506L	Nail			
8	2'-3"	R7	Post			
8	12'-0"	R508	Rail			
32	9'-6"	R509				
12	2'-0"	C1	Curb			
120	12"	C2				
24	21'-6"	C3				
304	24'-9"	S1	Slab			
196	27'-0"	S2				
12	27'-3"	S3				
180	28'-6"	S4				
10	17'-0"	S5				
0	6'-3"	S7				
End Bents No. 1 & 3						
10	18'-0"	H2				
2	30'-6"	H3	Backwall			
30	30'-3"	H4	Beam			
4	9'-3"	H5				
14	7'-0"	V1-V5	Wing			
30	21'-6"	V6	Col. Bt. #1			
30	14'-9"	V6	Col. Bt. #2			
64	12'-9"	V3	Beams Bkwl.			
4	13'-6"	V1	Wing			
4	34'-6"	V2	Backwall			
4	13'-9"	V3	Wing			
32	9'-3"	F1	Haunch			
16	9'-3"	F2				
30	6'-3"	D1	Footings Bt. #4			
12	11'-6"	H1	Wing			
2	5'-9"	V2				
2	6'-0"	V7				
27	30'-0"	V8	Col. Bt. #1			
18	27'-0"	V9	Col. Bt. #2			
30	6'-9"	D2	Footings Bt. #1			
Intermediate Bents No. 2 & 3						
86	10'-0"	P2	Column			
64	10'-0"	P3	Beam			
8	25'-0"	P4	Col. Bt. No. 3			
16	6'-3"	D1	Footings			
32	26'-9"	G1	Beam			
4	24'-9"	G2				
16	9'-3"	F1	Haunch			
16	9'-3"	F2				
8	24'-0"	F3	Col. Bt. #2			

GENERAL NOTES:-

- All concrete to be Class "5"
- Exposed edges to be beveled 3/4" where no other bevel is noted.
- Where rubber compound is specified on plans for use in partition and expansion joints, the pre-molded joint shall be securely stitched to one face of concrete with copper wire.
- Bar supports and spacers will be required for reinforcing steel in superstructure. See Standard C-110R.
- Detail shop drawings for all structural steel and cast steel shall be submitted to the State Highway Department in duplicate and shall be approved before material is ordered or work started.
- Rivets 3/4" holes 1/4" field connections riveted.
- Paint: Shop, none. Field, surfaces inaccessible after erection three coats of red lead. No other paint to be applied by contractor. Red lead required shall be furnished by the contractor. Payment for cleaning and painting such surfaces will be included in unit price bid for structural steel.
- All concrete shall be proportioned by the weight proportioning method.
- Excavation for structure shall be in accordance with Specification 1 of Standard Specifications issued November 12, 1935.
- Beam hinges to be squared up at all points of bearing.

B. M. Elev. 713.54 Nail in Root 12" Hickory 45' Lt. Sta. 466+35.

BRIDGE OVER HURRICANE CREEK

STATE ROAD FROM SHANNON CO. LINE TO ALTON
ABOUT 9.0 MILES SOUTH OF WINONA

PROJECT NO. FAS 442E (RSB) STA. 0+07.5

OREGON COUNTY

SUBMITTED BY: *N.R. Lock* DATE: 10/5/36
APPROVED BY: *C.W. Brown* DATE: 10/5/36
BRIDGE ENGINEER
CHIEF ENGINEER

F.A. FINAL PLANS

STD. C110R
STD. C6502R2
K-358

FINAL QUANTITIES			
Item	Superstr.	Substr.	Total
Excavation for Structures Cu.Yds.		126.5	126.5
Excavation for Structures Cu.Yds.		191.0	191.0
Class "B" Concrete (Handrail) Cu.Yds.	15.5		15.5
Class "B" Concrete Cu.Yds.	102.7	135.5	238.2
Fabricated Struct. Steel Lbs.	87620		87620
Reinforcing Steel Lbs.			40450
Bearing Castings Lbs.			1580
Class 2 Exc. below Plan Elev. Cu.Yds.			17.5

Note: Excavation above Elev. 707.0 will be paid for as Class 1 Excavation for Structures.
Excavation below Elev. 707.0 will be paid for as Class 2 Excavation for Structures.

Sheet No. 1A of 4

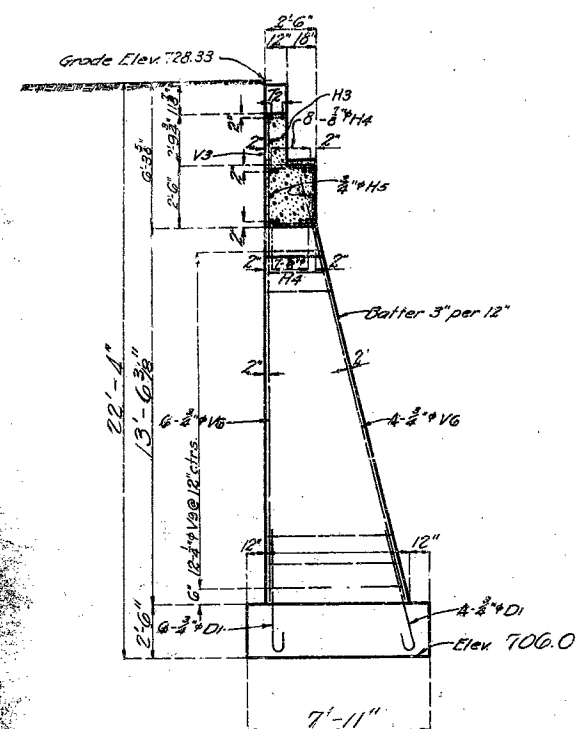
465

Drawn Nov. 1933 by J. G.
Traced Nov. 1933 by G.W.
Checked Nov. 1933 by PAB.

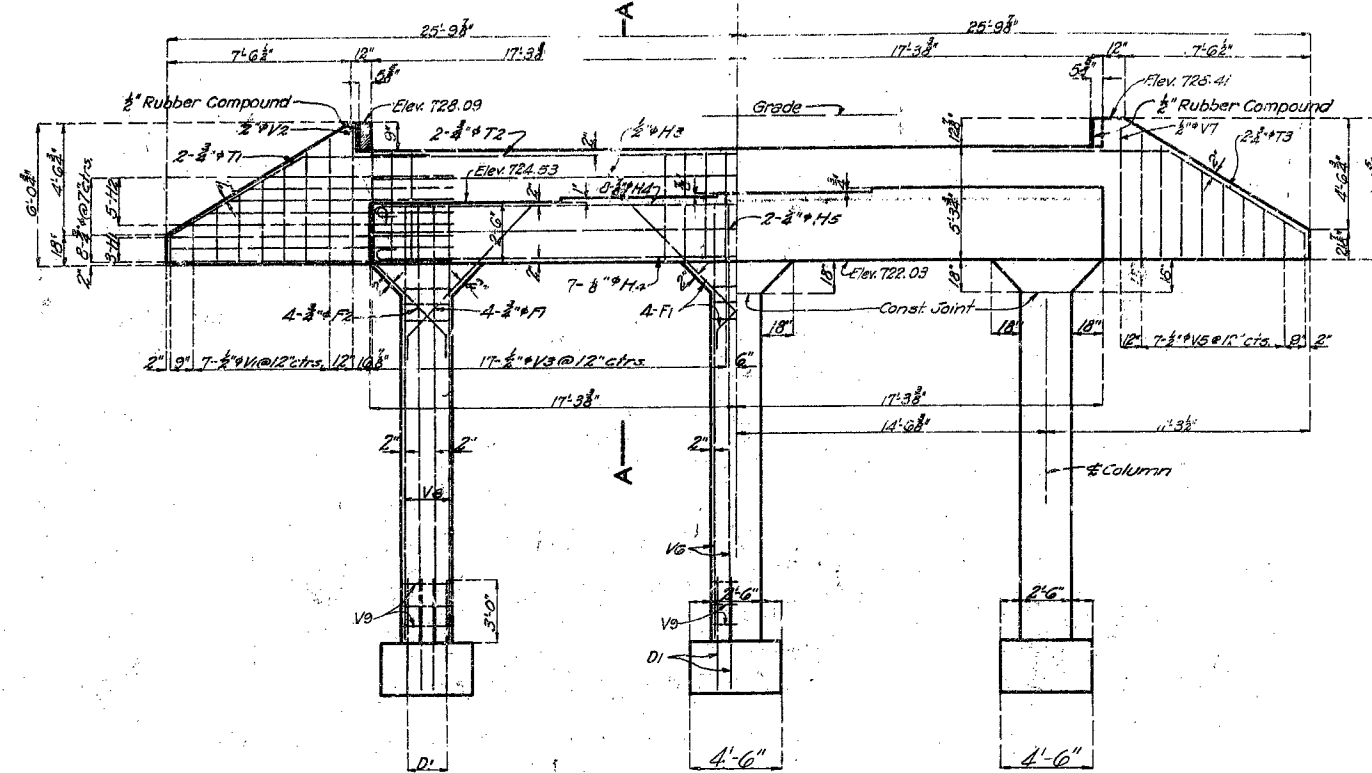
MISSOURI STAT. HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	PAV. 442E (RSB)	19		

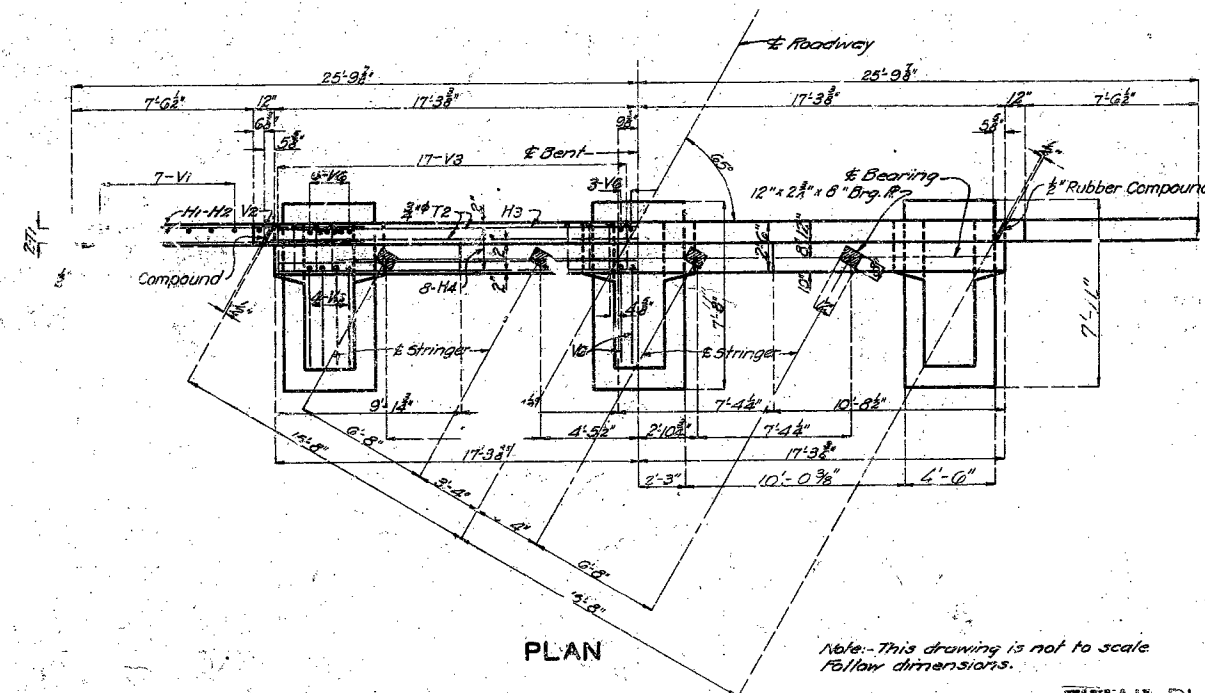
FINAL PLANS



SECTION A-A



ELEVATION



PLAN

DETAILS OF END BENTS NO. 4

Note: This drawing is not to scale
Follow dimensions.

FINAL PLANS

BRIDGE OVER HURRICANE CREEK

STATE ROAD FROM SHANNON CO. LINE TO ALTON

ABOUT 9.0 MILES SOUTH OF WINONA

PROJECT NO. FAS442E (RSB) STA. 0+07.5

OREGON

COUNTY FINAL PLANS

FINAL PLANS

K-358

Assembled Nov. 1933 by J.G. G.W.
Checked Nov. 1933 by RAB
Drawn June 1932 by H.D.
Checked July 1932 by P.H.S.

Sheet 1.6, 3A of 4

F.A.

467

804

FINAL PLANS



PLAN

DETAILS OF BENTS NO. 2 & 3

BRIDGE OVER HURRICANE CREEK

STATE ROAD FROM SHANNON CO. LINE TO ALTON
ABOUT 2.0 MILES SOUTH OF WINONA

PROJECT NO. FAS442E(RSB) STA. 0+07.5

OREGON

COUNTY FINAL PLANS

FINAL PLANS

FINAL PLANS

K-358

Assembled Nov. 1933 By J.G.-G.W.
Checked Nov. 1933 By RAB.
Drawn July 1932 By R.J.G.
Checked July 1932 By PHS

Note: This drawing is not to scale.
Follow dimensions.

Sheet No. 4A of 4.

F.A.